Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp.(Shenzhen). This report must not be used by the customer to claim product certi

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1 - General Information

1.1 Description of LED Light Sources#

Sample Size:

50 PCS test samples were in good condition and received on 2022-04-02. The samples were numbered from 1 to 25 and 26 to 50.

Manufacturer:	Hongli Zhihui Group Co.,Ltd. Guangzhou Branch
Part Number:	HL-A-5730D1W-S1-08-HR3(LY)
Part Type:	LED Package
Drive Level:	DC 150mA
Nominal CCT:	2700K
Power:	0.510W
Average Current Density per LED die:	775.002mA/mm^2
Average Power Density per LED die:	2.635W/mm^2
CRI:	80
Die Spacing:	/

Sampling Method:

LED samples for IESNA LM-80 testing consist of units built from a minimum of three manufacturing lots with each manufacturing lot built from different wafer lots built on non-consecutive days.
These manufacturing lots are picked to represent a wide parametric distribution.

Family products covered by this report:

According to *ENERGY STAR® Requirements for the Use of LM-80 Data*, the following products can be covered by this report base on the information and declaration provided by manufacturer. The information of these models shows that the covered products meet all section 4 requirements of *ENERGY STAR® Requirements for the Use of LM-80 Data* (September 28, 2017)

This report covers the following models:

Series Name	Model Name	CRI (typ.)	Total Input Current (mA)	Power (W)	CCT (K)	Number of dies	Driver current per die (mA)	Current Density per Die(mA/mm^2)	Power Density per PCB (W/mm^2)	Die Spacing (mm)
Test model	HL-A-5730D1W-S1-08-HR3(LY)	80	150	0.51	2700	1	150	775.002	0.0298	/
Multiple model	HL-A-5730D***W-S1-08*-HR*(LY)-***	70-80	150	0.51	2700-6500	1	150	775.002	0.0298	/
	HL-A-5730H***W-S1-08*-HR*(LY)-***	70-80	150	0.51	2700-6500	1	150	775.002	0.0298	/

Note:

-A-5730D***W-S1-08**-HR*(LY)-

1.
2. or the bonding wire style.
3.
4.

1.2 Standards and Reference Documentations

- ANSI/IES LM-80-15: IES Approved Method for Measuring Lumen Maintenance of LED Light Sources.
- *CIE 127:2007: Measurement of LEDs (This standard was not accredited by NVLAP)
- *ENERGY STAR® Requirements for the Use of LM-80 Data (This standard was not accredited by NVLAP)

1.3 Testing Equipment

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
0.5m integrating sphere	EVERFINE	AIS-2	G185304TA1381172	2022-09-27	2023-09-26
LED Test Source	EVERFINE	LTS-300	P185616CD1371113	2022-11-18	2023-11-17
High Accuracy Array Spectroradiometer	EVERFINE	HAAS-2000	P600674CM1381123	2022-09-27	2023-09-26
Standard Light Source	EVERFINE	D062	1011093	2021-10-15	2023-10-14
Multilayer aging machine	BACL	B2-270	20005	2022-11-18	2023-11-17
Program-controlled D.C. Stabilized Voltage Supply	Hanshenpuyuan	HSPY-60-03	N/A	2022-11-18	2023-11-17

1.4 Drive Level

Samples are driven with a constant direct current (DC) during maintenance test, photometric and electrical measurement. The current value was regulated to within ±3% of the specified value of the manufacturer during maintenance test, and was within ±0.5% during photometric and electrical measurement test.

1.5 Ambient Conditions for Maintenance Test

For lumen maintenance test, samples within one data set, were installed on cooling boards in thermal chambers with minimal ambient airflow. The case temperature and ambient temperature was monitored by thermocouples which one was soldered to the $_{LED}$) location, while the other is mounted at a distance of 5 mm above the TMP location.

During life testing, TMP_{LED} of the coldest LEDs were maintained at a temperature that was greater than or equal to 2°C below the corresponding nominal case temperature. Surrounding air was maintained at a temperature that was greater than or equal to 5°C below the corresponding nominal case temperature. Thermocouples were shielded from direct DUT optical radiation and comply with
.

Samples were connected to DC power supply in series circuits with a constant current. The forward current was regulated to within ±3% of the specified value of the manufacturer.

The relative humidity within chamber was kept less than 65% during test.

For photometry measurement, the ambient temperature during test was set to 25°C ± 2°C, RH <65%.

1.6 Photometric Measurement Method and Uncertainty

Integrating sphere and spectroradiometer is used to measure luminous flux and chromaticity coordinate u v . 2 measurement was used and sample was drived by DC power supply. The forward current was regulated to within ±0.5% of the nominal value. The test system was calibrated by halogen reference lamp. The ambient temperature during test was set to 25°C ± 2°C, RH <65%. The temperature measurement point was located in the sphere and the temperature was detected by a temperature probe.

The uncertainty of the light output measurements is U=1.59% (K=2), at the 95% confidence level. The uncertainty of the correlated color temperature measurements is U=21K (K=2), at the 95% confidence level.

The uncertainty of the temperature is U=0.8671°C (K=2), at the 95% confidence level.

1.7 Statement of Traceability

Bay Area Compliance Laboratories Corp. (Shenzhen) attested that all calibration has been performed using suitable standards traceable to National Primary Standards and International System of Units (SI).

1.8 Sample Set

Data Set 1: 55°C, 150mA

Part Number:	HL-A-5730D1W-S1-08-HR3(LY)
Number of Units:	25
Case Temperature:	>53°C
Ambient Temperature:	>50°C
Life Test Drive Current:	150mA
Measurement Current:	150mA

Data Set 2: 105°C, 150mA

Part Number:	HL-A-5730D1W-S1-08-HR3(LY)
Number of Units:	25
Case Temperature:	>103°C
Ambient Temperature:	>100°C
Life Test Drive Current:	150mA
Measurement Current:	150mA

3.3 Data Set 1, 55°C, 150mA (Chromaticity Shift)

No.			CCT(K)						
	0hr(Initial)			1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	0.2614	0.5305	2711	0.0001	0.0002	0.0003	0.0004	0.0006	0.0008
2	0.2597	0.5277	2757	0.0001	0.0003	0.0004	0.0005	0.0006	0.0006
3	0.2598	0.5252	2765	0.0002	0.0003	0.0004	0.0005	0.0007	0.0007
4	0.2610	0.5303	2720	0.0003	0.0004	0.0005	0.0006	0.0005	0.0007
5	0.2586	0.5264	2787	0.0002	0.0003	0.0004	0.0005	0.0006	0.0006
6	0.2611	0.5314	2712	0.0002	0.0004	0.0004	0.0005	0.0008	0.0007
7	0.2590	0.5279	2772	0.0001	0.0003	0.0004	0.0005	0.0008	0.0011
8	0.2591	0.5275	2772	0.0002	0.0004	0.0006	0.0007	0.0008	0.0009
9	0.2591	0.5269	2773	0.0001	0.0002	0.0003	0.0004	0.0006	0.0007
10	0.2623	0.5290	2697	0.0003	0.0005	0.0006	0.0008	0.0009	0.0010
11	0.2608	0.5299	2725	0.0003	0.0005	0.0007	0.0008	0.0009	0.0012
12	0.2611	0.5306	2717	0.0001	0.0002	0.0004	0.0005	0.0006	0.0006
13	0.2599	0.5272	2755	0.0001	0.0002	0.0004	0.0006	0.0009	0.0009
14	0.2600	0.5298	2743	0.0002	0.0003	0.0004	0.0005	0.0009	0.0011
15	0.2601	0.5309	2735	0.0001	0.0003	0.0004	0.0005	0.0007	0.0008
16	0.2607	0.5305	2725	0.0001	0.0002	0.0004	0.0005	0.0006	0.0007
17	0.2559	0.5297	2830	0.0001	0.0002	0.0003	0.0004	0.0004	0.0005
18	0.2601	0.5293	2743	0.0001	0.0004	0.0005	0.0006	0.0007	0.0008
19	0.2619	0.5294	2704	0.0002	0.0003	0.0004	0.0005	0.0008	0.0008
20	0.2588	0.5307	2764	0.0003	0.0005	0.0006	0.0008	0.0011	0.0013
21	0.2571	0.5260	2821	0.0001	0.0003	0.0004	0.0005	0.0006	0.0008
22	0.2598	0.5280	2755	0.0002	0.0004	0.0005	0.0006	0.0007	0.0008
23	0.2604	0.5291	2737	0.0001	0.0003	0.0005	0.0006	0.0008	0.0008
24	0.2572	0.5300	2800	0.0001	0.0003	0.0003	0.0004	0.0006	0.0008
25	0.2604	0.5294	2735	0.0002	0.0004	0.0005	0.0006	0.0005	0.0008
Avg.	0.2598	0.5289	2750	0.0002	0.0003	0.0004	0.0006	0.0007	0.0008
Med.	0.2600	0.5294	2743	0.0001	0.0003	0.0004	0.0005	0.0007	0.0008
st dev	0.0015	0.0017	35	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002
Min.	0.2559								

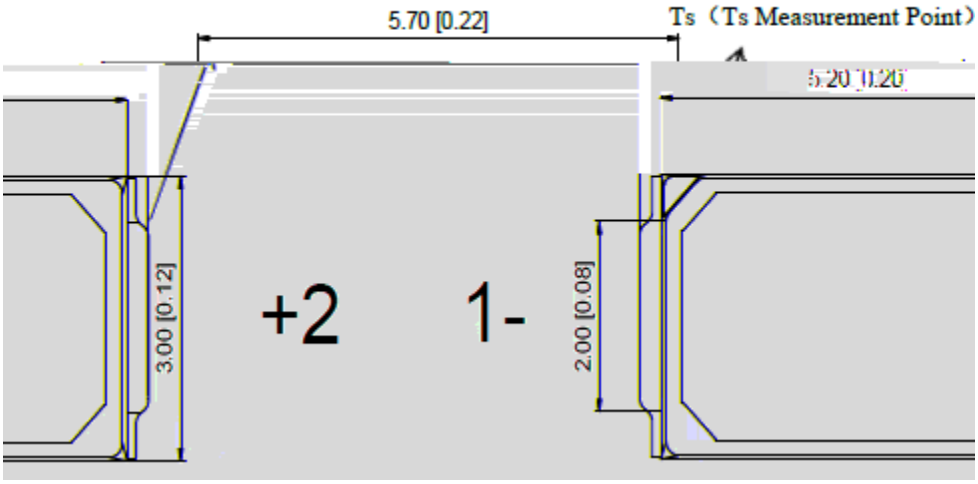
3.4 Data Set 2, 105°C, 150mA (Lumen Maintenance)

No.		Lumen Maintenance (%)					
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
26	64.23	100.20					

3.6

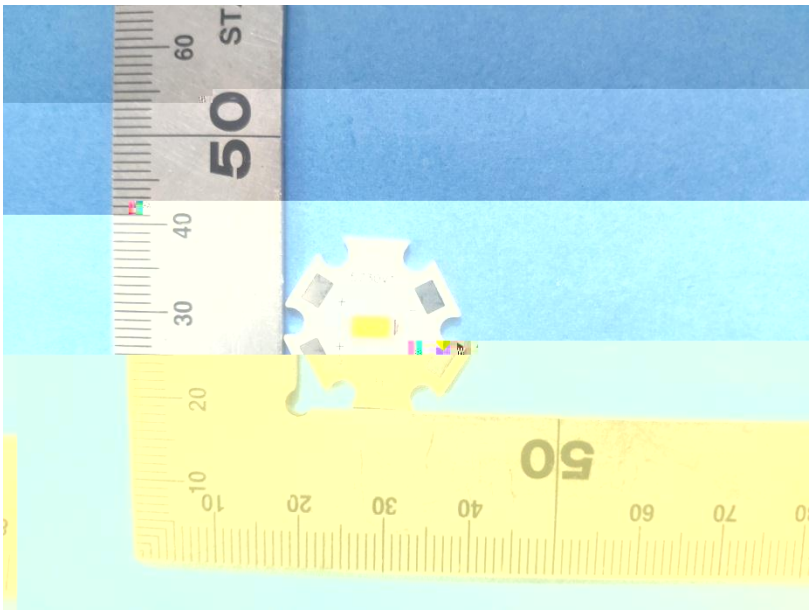
4 - DUT Photo

4.1 Mechanical Dimensions



All dimensions are in millimeter

4.2 DUT Photo



Directions

**********END OF REPORT**********